

Appl. No. 09/676,722
Amendment dated November 12, 2003
Reply to Office action of October 8, 2003

IN THE CLAIMS:

Claims 1-34 are pending in the instant application. Claims 1, 8-10, 12-15, and 22 have been amended. Applicant requests reconsideration of the claims in view of the following amendments.

Please amend the claims as follows:

1. (Currently amended) An insert earphone comprising:
a housing;
a receiver located in the housing and having an output port, the receiver for electrically coupling with an audio signal source;
a flexible eartip for acoustic sealing with an ear canal of a user; and
a tube nipple providing an acoustic pathway through at least one wall of the housing and having a first end and a second end, the first end being located within the housing and being acoustically coupled to the output port of the receiver and the second end being located externally to the housing and being acoustically coupled to the flexible eartip, the tube nipple and housing being configured and arranged to form an obtuse angle between a longitudinal axis of the tube nipple and a vertical axis of the housing, wherein the housing hangs approximately vertically along the side of a user's head when worn[[.]]: and

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wherein the insert earphone is inserted at least partially into the ear canal
and is supported entirely by the ear canal when worn by the user.

2. (Original) The insert earphone of claim 1 wherein the angle is approximately 118 degrees.

E1 3. (Original) The insert earphone of claim 1 further comprising a flexible channel located between the output port of the receiver and the first end of the tube nipple.

4. (Original) The insert earphone of claim 1 wherein the flexible eartip comprises a flexible tube portion and a foam eartip portion, and wherein at least a portion of the flexible tube portion extends through the foam eartip portion.

5. (Original) The insert earphone of claim 4 wherein the tube nipple is rigid and wherein the second end of the tube nipple is positioned within the flexible tube portion of the flexible eartip.

6. (Previously presented) The insert earphone of claim 1 further comprising an acoustic damper located in the tube nipple proximate the first end of the tube nipple.

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7. (Original) The insert earphone of claim 3 wherein the flexible channel has a first end and a second end, and wherein the first end of the flexible channel is coupled to output port of the receiver and the second end of the flexible channel is coupled to the first end of the tube nipple.

8. (Currently amended) An insert earphone comprising:

a housing;

a receiver located in the housing and having an output port, the receiver for electrically coupling with an audio signal source;

a flexible eartip for acoustic sealing with an ear canal of a user, the flexible eartip having a foam eartip portion and a flexible tube portion; and

a [[rigid]] tube nipple providing an acoustic pathway through at least one wall of the housing and having a first end and a second end, the first end of the [[rigid]] tube nipple being located within the housing and being acoustically coupled to the output port of the receiver and the second end of the [[rigid]] tube nipple being located externally to the housing and being acoustically coupled to the flexible tube portion of the flexible eartip;

wherein the earphone providing a response that is approximately 0 dB relative to a response of the TDH-39 standard ~~at at~~ least one of 6 and 8 khz.

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9. (Currently amended) The insert earphone of claim 8 wherein the second end of the [[rigid]] tube nipple is positioned within the flexible tube portion of the flexible eartip.

10. (Currently amended) The insert earphone of claim 8, the [[rigid]] tube nipple and the housing being configured and arranged to form an obtuse angle between a longitudinal axis of the [[rigid]] tube nipple and a vertical axis of the housing, wherein the housing hangs approximately vertically along the side of a user's head when worn.

11. (Original) The insert earphone of claim 10 wherein the angle is approximately 118 degrees.

12. (Currently amended) The insert earphone of claim 8 further comprising a flexible channel located between the output port of the receiver and the first end of the [[rigid]] tube nipple.

13. (Currently amended) The insert earphone of claim 12 wherein the flexible channel has a first end and a second end, and wherein the first end of the flexible channel is coupled to the output port of the receiver and the second end of the flexible channel is coupled to the first end of the [[rigid]] tube nipple.

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14. (Currently amended) The insert earphone of claim 8 further comprising an acoustic damper located in the [[rigid]] tube nipple proximate the first end of the [[rigid]] tube nipple.

15. (Currently amended) An insert earphone comprising:

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a housing;
a receiver located in the housing and having an output port, the receiver for electrically coupling with an audio signal source;
a flexible eartip for acoustic sealing with ear canal of a user;
a tube nipple having a first end and a second end, the first end located within the housing and acoustically coupled to the output port of the receiver and the second end located externally to the housing and acoustically coupled to the flexible eartip; [[and]]
an acoustic damper located in the tube nipple proximate the first end of the tube nipple[[.]]; and

wherein the insert earphone is inserted at least partially into the ear canal and is supported entirely by the ear canal when worn by the user.

16. (Previously presented) The insert earphone of claim 15, the tube nipple and the housing being configured and arranged to form an obtuse angle between a longitudinal

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axis of the tube nipple and a vertical axis of the housing, wherein the housing hangs approximately vertically along the side of a user's head when worn.

17. (Original) The insert earphone of claim 16 wherein the angle is approximately 118 degrees.

E1 18. (Original) The insert earphone of claim 15 wherein the flexible eartip comprises a flexible tube portion and a foam eartip portion, and wherein at least a portion of the flexible tube portion extends through the foam eartip portion.

19. (Original) The insert earphone of claim 18 wherein the tube nipple is rigid and wherein the second end of the tube nipple is positioned within the flexible tube portion of the flexible eartip.

~~20~~ (Original) The insert earphone of claim 15 further comprising a flexible channel located between the output port of the receiver and the first end of the tube nipple.

21. (Original) The insert earphone of claim 20 wherein the flexible channel has a first end and a second end, and wherein the first end of the flexible channel is coupled to

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the output port of the receiver and the second end of the flexible channel is coupled to the first end of the tube nipple.

22. (Currently amended) An insert earphone comprising:

a housing;

a receiver located in the housing and having an output port, the receiver for electrically coupling with an audio signal source;

a flexible eartip for acoustic sealing with an ear canal of a user, the flexible eartip having a foam eartip portion and a flexible tube portion;

a rigid tube nipple providing an acoustic pathway through at least one wall of the housing and having a first end and a second end, the first end of the rigid tube nipple being located within the housing and being acoustically coupled to the output port of the receiver and the second end of the rigid tube nipple being located externally to the housing and being acoustically coupled to flexible tube portion of the flexible eartip; [[and]]

a flexible channel located between the output port of the receiver and the first end of the rigid tube nipple[[.]]; and

wherein the insert earphone is inserted at least partially into the ear canal and is supported entirely by the ear canal when worn by the user.

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23. (Previously Presented) The insert earphone of claim 22 wherein the flexible channel has a first end and a second end, and wherein the first end of the flexible channel is coupled to the output port of the receiver and the second end of the flexible channel is coupled to the first end of the rigid tube nipple.

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24. (New) An insert earphone comprising:

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a housing;
a receiver located in the housing and having an output port, the receiver for electrically coupling with an audio signal source;
a flexible eartip for acoustic sealing with an ear canal of a user; and
a tube nipple providing an acoustic pathway through at least one wall of the housing and having a first end and a second end, the first end being located within the housing and being acoustically coupled to the output port of the receiver and the second end being located externally to the housing and being acoustically coupled to the flexible eartip, the tube nipple and housing being configured and arranged to form an obtuse angle of approximately 118 degrees between a longitudinal axis of the tube nipple and a vertical axis of the housing, wherein the housing hangs approximately vertically along the side of a user's head when worn.

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25. (New) The insert earphone of claim 24 further comprising a flexible channel located between the output port of the receiver and the first end of the tube nipple.

26. (New) The insert earphone of claim 24 wherein the flexible eartip comprises a flexible tube portion and a foam eartip portion, and wherein at least a portion of the flexible tube portion extends through the foam eartip portion.

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27. (New) The insert earphone of claim 26 wherein the tube nipple is rigid and wherein the second end of the tube nipple is positioned within the flexible tube portion of the flexible eartip.

28. (New) The insert earphone of claim 24 further comprising an acoustic damper located in the tube nipple proximate the first end of the tube nipple.

29. (New) The insert earphone of claim 25 wherein the flexible channel has a first end and a second end, and wherein the first end of the flexible channel is coupled to output port of the receiver and the second end of the flexible channel is coupled to the first end of the tube nipple.

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30. (New) An insert earphone comprising:

a housing;

a receiver located in the housing and having an output port, the receiver for electrically coupling with an audio signal source;

a flexible eartip for acoustic sealing with ear canal of a user;

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a tube nipple having a first end and a second end, the first end located within the housing and acoustically coupled to the output port of the receiver and the second end located externally to the housing and acoustically coupled to the flexible eartip, the tube nipple and the housing being configured and arranged to form an obtuse angle of approximately 118 degrees between a longitudinal axis of the tube nipple and a vertical axis of the housing, wherein the housing hangs approximately vertically along the side of a user's head when worn; and

an acoustic damper located in the tube nipple proximate the first end of the tube nipple.

31. (New) The insert earphone of claim 30 wherein the flexible eartip comprises a flexible tube portion and a foam eartip portion, and wherein at least a portion of the flexible tube portion extends through the foam eartip portion.

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32. (New) The insert earphone of claim 31 wherein the tube nipple is rigid and wherein the second end of the tube nipple is positioned within the flexible tube portion of the flexible eartip.

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33. (New) The insert earphone of claim 15 further comprising a flexible channel located between the output port of the receiver and the first end of the tube nipple.

34. (New) The insert earphone of claim 33 wherein the flexible channel has a first end and a second end, and wherein the first end of the flexible channel is coupled to the output port of the receiver and the second end of the flexible channel is coupled to the first end of the tube nipple.